

We Claim:

1. A weather module for use with an enterprise system, comprising:
a processor, and
memory for storing computer readable instructions that, when executed by the processor, cause the weather module to perform the steps of:
 - (i) receiving meteorological data from a weather information provider;
 - (ii) receiving critical threshold information that relates a business process decision to one or more variables in the received meteorological data;
 - (iii) determining whether one of the critical thresholds is presently exceeded or is likely to be exceeded in the future; and
 - (iv) sending event information to the enterprise system to alter the business process decision when the one critical threshold is exceeded.
2. The module of claim 1, wherein the meteorological data comprises at least one of precipitation information, temperature information, and wind information.
3. The module of claim 1, further comprising a climatological database and wherein, in step (iii), within a forecast time horizon the module determines whether the one critical threshold is likely to be exceeded based on the meteorological information, and beyond the forecast time horizon the module determines whether the one critical threshold is likely to be exceeded based on climatological information stored in the climatological database.
4. The module of claim 3, wherein, as the forecast time horizon approaches, determinations are based on a combination of meteorological and climatological information.
5. The module of claim 1, wherein the critical threshold information comprises a critical level and a probability associated with the critical level.

6. The module of claim 5, wherein step (iii) determines whether the one critical level is likely to be exceeded in the future according to its associated probability.

7. The module of claim 1, wherein the critical threshold information is defined by a user of the enterprise system.

8. The module of claim 1, wherein the computer readable instructions further perform the step of transmitting to the weather information provider a request for meteorological information.

9. The module of claim 1, wherein the business process decision affects airplane flight operations.

10. The module of claim 1, wherein the business process decision affects electric utility operations.

11. The module of claim 1, wherein the critical threshold information corresponds to at least one of a runway crosswind level, a visibility level, and a cloud ceiling level.

12. The module of claim 1, wherein the critical threshold information corresponds to at least one of a critical substation temperature, critical utility line temperature, and a critical wind speed.

13. The module of claim 1, wherein the computer readable instructions further cause the module to perform the steps of:

- (v) when, in step (iii), it is determined that a critical threshold level is exceeded or may be exceeded, determining a period of time for which the threshold will remain exceeded; and
- (vi) sending delay information comprising the period of time to the enterprise system.

14. The module of claim 1, wherein the computer readable instructions further cause the module to perform the steps of:

- (v) recording meteorological data in a historical weather database;
- (vi) querying the historical weather database based on requested query data; and
- (vii) sending query results to a query requestor.

15. A method for integrating meteorological information into an enterprise system, comprising the steps of:

- (i) receiving meteorological data from a weather information provider;
- (ii) receiving critical threshold information that relates a business process decision to one or more variables in the received meteorological data;
- (iii) determining whether one of the critical thresholds is presently exceeded or is likely to be exceeded in the future; and
- (iv) sending event information to the enterprise system to alter the business process decision when the one critical threshold is exceeded.

16. The method of claim 15, wherein the meteorological data comprises at least one of precipitation information, temperature information, and wind information.

17. The method of claim 15, wherein, within a forecast time horizon step (iii) determines whether the one critical threshold is likely to be exceeded based on the meteorological information, and beyond the forecast time horizon step (iii) determines whether the one critical threshold is likely to be exceeded based on climatological information stored in a climatological database.

18. The method of claim 17, wherein, as the forecast time horizon approaches, determinations in step (iii) are based on a combination of meteorological and climatological information.

19. The method of claim 15, wherein the critical threshold information comprises a critical level and a probability associated with the critical level.

20. The method of claim 19, wherein step (iii) determines whether the one critical level is likely to be exceeded in the future according to its associated probability.

21. The method of claim 15, wherein the critical threshold information is defined by a user of the enterprise system.

22. The method of claim 15, further comprising the step of transmitting to the weather information provider a request for meteorological information.

23. The method of claim 15, wherein the business process decision affects airplane flight operations.

24. The method of claim 15, wherein the business process decision affects electric utility operations.

25. The method of claim 15, wherein the critical threshold information corresponds to at least one of a runway crosswind level, a visibility level, and a cloud ceiling level.

26. The method of claim 15, wherein the critical threshold information corresponds to at least one of a critical substation temperature, critical utility line temperature, and a critical wind speed.

27. The method of claim 15, further comprising the steps of:

- (v) when, in step (iii), it is determined that a critical threshold level is exceeded or may be exceeded, determining a period of time for which the threshold will remain exceeded; and

- (vi) sending delay information comprising the period of time to the enterprise system.

28. The method of claim 15, further comprising the steps of:

- (v) recording meteorological data in a historical weather database;
- (vi) querying the historical weather database based on requested query data; and
- (vii) sending query results to a query requestor.

29. A computer readable medium comprising computer readable instructions for integrating meteorological information into an enterprise system, wherein when a processor executes the computer readable instructions, a data processing device performs the steps of:

- (i) receiving meteorological data from a weather information provider;
- (ii) receiving critical threshold information that relates a business process decision to one or more variables in the received meteorological data;
- (iii) determining whether one of the critical thresholds is presently exceeded or is likely to be exceeded in the future; and
- (iv) sending event information to the enterprise system to alter the business process decision when the one critical threshold is exceeded.

30. The computer readable medium of claim 29, wherein the meteorological data comprises at least one of precipitation information, temperature information, and wind information.

31. The computer readable medium of claim 29, wherein, within a forecast time horizon step (iii) determines whether the one critical threshold is likely to be exceeded based on the meteorological information, and beyond the forecast time horizon step (iii) determines whether the one critical threshold is likely to be exceeded based on climatological information stored in a climatological database.

32. The computer readable medium of claim 31, wherein, as the forecast time horizon approaches, determinations in step (iii) are based on a combination of meteorological and climatological information.

33. The computer readable medium of claim 29, wherein the critical threshold information comprises a critical level and a probability associated with the critical level.

34. The computer readable medium of claim 33, wherein step (iii) determines whether the one critical level is likely to be exceeded in the future according to its associated probability.

35. The computer readable medium of claim 29, wherein the critical threshold information is defined by a user of the enterprise system.

36. The computer readable medium of claim 29, wherein the computer readable instructions further comprise the step of transmitting to the weather information provider a request for meteorological information.

37. The computer readable medium of claim 29, wherein the business process decision affects airplane flight operations.

38. The computer readable medium of claim 29, wherein the business process decision affects electric utility operations.

39. The computer readable medium of claim 29, wherein the critical threshold information corresponds to at least one of a runway crosswind level, a visibility level, and a cloud ceiling level.

40. The computer readable medium of claim 29, wherein the critical threshold information corresponds to at least one of a critical substation temperature, critical utility line temperature, and a critical wind speed.

41. The computer readable medium of claim 29, wherein the computer readable instructions further comprise the steps of:

- (v) when, in step (iii), it is determined that a critical threshold level is exceeded or may be exceeded, determining a period of time for which the threshold will remain exceeded; and
- (vi) sending delay information comprising the period of time to the enterprise system.

42. The computer readable medium of claim 29, wherein the computer readable instructions further comprise the steps of:

- (v) recording meteorological data in a historical weather database;
- (vi) querying the historical weather database based on requested query data; and
- (vii) sending query results to a query requestor.

43. A business process decision system comprising:

a business process decision module; and

a weather module comprising:

a processor;

a stored critical threshold database for maintaining critical threshold information;

stored computer readable instructions that, when executed by the processor, cause the weather module to perform the steps of:

- (i) transmitting to a weather information provider a request for meteorological data;
- (ii) receiving meteorological data from the weather information provider;
- (iii) receiving critical threshold information that relates a business process decision made by the business process decision module to one or more variables in the received meteorological data;

- (iv) storing the critical threshold information in the critical threshold database;
- (v) determining whether one of the critical thresholds is presently exceeded or is likely to be exceeded in the future; and
- (vi) sending event information to the business process decision module to alter the business process decision when the one critical threshold is exceeded.

44. The system of claim 43, wherein the weather module further comprises a climatological database and wherein, in step (v), within a forecast time horizon the weather module determines whether the one critical threshold is likely to be exceeded based on the meteorological information, and beyond the forecast time horizon the weather module determines whether the one critical threshold is likely to be exceeded based on climatological information stored in the climatological database.

45. The system of claim 44, wherein, as the forecast time horizon approaches, determinations are based on a combination of meteorological and climatological information.

46. The system of claim 43, wherein the critical threshold information comprises a critical level and a probability associated with the critical level.

47. The system of claim 46, wherein step (v) determines whether the one critical level is likely to be exceeded in the future according to its associated probability.

48. The system of claim 43, wherein the computer readable instructions further cause the weather module to perform the steps of:

- (vii) when step (v) determines that a critical threshold level is exceeded or may be exceeded, determining a period of time for which the threshold will remain exceeded; and

- (viii) sending delay information comprising the period of time to the business process decision module.

49. The system of claim 43, wherein the computer readable instructions further cause the weather module to perform the steps of:

- (vii) recording meteorological data in a historical weather database;
- (viii) querying the historical weather database based on requested query data;
and
- (ix) sending query results to a query requestor.

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